Inference at $*$ 2 1 1 2 1
of proof for Lemma before-adjacent:

1. T : Type
2. T List
3. u : T
4. v : T List
5. $\forall x$, y:T.
   no_repeats(T;v)
   $\Rightarrow$ adjacent(T;v;x;y)
   $\Rightarrow$ ($\forall z$:T. z before $y \in v \Rightarrow (z$ before $x \in v \vee (z = x)))$
6. x : T
7. y : T
8. no_repeats(T;v)
9. $\neg(u \in v)$
10. $0 < \|v\|$
11. $x = u$
12. $y = \mathrm{hd}(v)$
13. z : T
14. z before $y \in v$

$\vdash((z = u$ & $(x \in v)) \vee z$ before $x \in v) \vee (z = x)$
by ((InstLemma 'hd-before' [T;v;z])
CollapseTHEN (Auto$\cdot$))$\cdot$

1: .....antecedent..... NILNIL

$\vdash (z \in v)$

2: .....antecedent..... NILNIL

$\vdash \neg(z = \mathrm{hd}(v))$

3:

15. hd(v) before $z \in v$

$\vdash ((z = u$ & $(x \in v)) \vee z$ before $x \in v) \vee (z = x)$

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http://www.nuprl.org/FDLcontent/p0_963683_/p28_1029031_{before-adjacent}2_1_1_2_1.html